

RECEIVED
CENTRAL FAX CENTER
DEC 21 2007

Appl. No. 10/065,585
Reply to Office action of November 16, 2007

Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

5 **Listing of Claims:**

1 (currently amended): A radio device capable of anticipating a link state as being a standby link state or a connection link state, the radio device operating under a frequency hopping scheme wherein the radio device changes frequencies according to the link state and according to a periodic timer that defines
10 regular time slots, the radio device comprising:
a first register set for storing standby frequency channel parameters relating to the standby link state;
a second register set for storing connection frequency channel parameters relating to the connection link state;
15 a multiplexer connected to outputs of the first and second register sets for selecting and outputting either the standby or connection frequency channel parameters;
a link state controller connected to a selection input of the multiplexer for controlling the multiplexer according to the link state of the radio device;
20 a working register set connected to the output of the multiplexer for receiving the selected frequency channel parameters output by the multiplexer; and
a frequency channel controller connected to the working register set for controlling the radio device according to the selected frequency channel parameters;
25 wherein before the radio device changes frequencies from a current time slot to a next time slot the standby frequency channel parameters for the next time slot and the connection frequency channel parameters for the next time slot are stored in the first and second register sets respectively, such that when the link state of the radio device changes in the current time slot, the link state controller switches the
30 multiplexer according to the link state of the radio device for the next time slot so

Appl. No. 10/065,585

Reply to Office action of November 16, 2007

that the selected frequency parameters for the next time slot are loaded into the working register set in the current time slot.

- 2 (original): The radio device of claim 1 wherein the standby and connection
5 frequency channel parameters are determined by a software interrupt service routine (ISR) for the next time slot during the current time slot.
- 3 (original): The radio device of claim 1 wherein the selected frequency channel
10 parameters are loaded into the working register set ahead of the next time slot as indicated by the periodic timer.
- 4 (original): The radio device of claim 1 further comprising an RF device connected to
the frequency channel controller for transmitting and receiving radio signals
according to the selected frequency channel parameters.
- 15 5 (original): The radio device of claim 4 wherein the link state controller switches the multiplexer ahead of the next time slot by a predetermined RF settling time of the RF device.
- 20 6 (previously presented): The radio device of claim 4 wherein the radio device is designed and manufactured according to the specification of the Bluetooth system for wireless communications.
- 7 (original): The radio device of claim 1 wherein each link state has a different set of
25 frequencies that are cycled through according to the frequency hopping scheme.
- 8 (original): The radio device of claim 1 wherein the link state is determined by
information received from a second radio device.

30

Appl. No. 10/065,585
Reply to Office action of November 16, 2007

9 (original): The radio device of claim 1 wherein when in the standby link state the periodic timer is generated by the radio device, and when in the connection link state the periodic timer is generated by and received from a second radio device.

5

10 (previously presented): The radio device of claim 1 further comprising another link state and a corresponding third register set, wherein the multiplexer is further connected to the output of the third register set for further selecting and outputting frequency channel parameters of the third register set.

10

11 (currently amended): A method for setting a link state for a radio device, the radio device comprising a first register set, a second register set, and a frequency channel controller, the radio device operating under a frequency hopping scheme wherein the radio device changes frequencies according to the link state and according to a periodic timer that defines regular time slots, the method comprising:

15

storing standby frequency channel parameters for a next time slot in the first register set;

storing connection frequency channel parameters for the next time slot in the second register set;

20

selecting the standby frequency channel parameters during a current time slot when the link state of the radio device is to be a standby link state during the next time slot;

selecting the connection frequency channel parameters during the current time slot when the link state of the radio device is to be a connection link state during the next time slot; and

25

inputting the selected frequency channel parameters for the next time slot into the frequency channel controller in the current time slot when the link state of the radio device changes in the current time slot prior to the beginning of the next time slot for controlling the radio device during the

30

Appl. No. 10/065,585
Reply to Office action of November 16, 2007

next time slot.

12 (original): The method of claim 11 wherein the storing, selecting, and inputting steps are synchronized through the periodic timer.

5

13 (original): The method of claim 11 further comprising calculating standby frequency channel parameters and connection frequency channel parameters using a software interrupt service routine (ISR) and forwarding the calculated frequency channel parameters to the first and second register sets.

10